AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method to enhance~~for enhancing~~ a first CT image composed of a plurality of elements, each element having an intensity value ~~in Hounsfield units~~ indicative of a tissue type, the method comprising:

receiving the~~said~~ first CT image,

providing, by enhancement processing based on the~~said~~ first CT image, at least one processed~~a plurality of copies of said first~~ CT image, ~~said~~the enhancement processing being performed with respect to at least one predetermined intensity value ranges, and

combining ~~said~~at least one of the first CT image and the at least one processed ~~plurality of copies of said first~~ CT image ~~with said first CT image~~, whereby an enhanced CT image is provided, ~~said~~the combining being based on a classification with respect to intensity values of regions within ~~said~~the first CT image and the at least one processed CT image~~said plurality of copies of said first CT image~~.

2. (Currently Amended) The method of claim 1, further comprising receiving an indication of ~~said~~the at least one predetermined value ranges and associating ~~said~~ the at least one predetermined intensity value ranges with ~~said~~the at least one processed CT image~~plurality of copies of said first CT image~~.

3. (Currently Amended) The method of claim 1, wherein ~~said~~the enhancement processing -is adaptive to a local structure defined by at least one~~some~~ of ~~said~~the plurality of elements.

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4. (Currently Amended) The method of claim 3, wherein ~~said~~the local structure is defined by a group of elements whose intensity values are within ~~said~~the at least one predetermined intensity value ranges.

5. (Currently Amended) The method of claim 1, wherein ~~said~~the enhancement processing comprises applying a non-linear filter to ~~said~~the at least one processed CT image~~plurality of copies of said first CT imag~~e.

6. (Currently Amended) The method of claim 1, wherein ~~said~~the enhancement processing includes at least one of ~~is selected from a group consisting of~~ a noise reduction using a low pass filter, a contrast enhancement using unsharp masking, a rank filtering, an adaptive filtering, a mean-shift filtering, a variational method, a multiband technique and a wavelet technique.

7. (Currently Amended) The method as claimed in claim 1, wherein combining at least one of the first CT image and the at least one processed CT image~~said plurality of copies of said first CT image with said first CT imag~~e comprises:

determining a first region mask for ~~said~~the first CT image, ~~said~~the first region mask defining an area within the first CT image, whose elements have intensity values within a first intensity value range,

determining a respective additional region mask for the at least one processed CT image~~said plurality of copies of said first CT image~~, ~~said~~the respective additional region mask defining an area within a respective processed image~~copy~~ of ~~said~~the first CT image, whose elements have intensity values within ~~said~~the predetermined intensity value ranges, and

combining ~~said~~the first CT image and the at least one processed CT image~~said plurality of copies of said first CT image~~, weighted by their respective region masks, whereby ~~said~~the enhanced CT image is provided.

8. (Currently Amended) The method of claim 7, further comprising prioritizing ~~said~~the first CT image and the at least one processed CT image~~said plurality of copies of said first CT image~~, whereby an element of a CT image having a higher priority is included in the enhanced CT image and a correspondingly located element of a CT image having a lower priority is excluded from the enhanced CT image.

9. (Currently Amended) The~~,~~ method of claim 7, further comprising smoothing ~~said~~the region masks.

10. (Currently Amended) The method of claim 7, further comprising normalizing ~~said~~the region masks.

11. (Currently Amended) The method of claim 7, further comprising subjecting at least one of ~~said~~the region masks to a morphological closing and/or opening algorithm.

12. (Currently Amended) The method of claim 1, wherein ~~said~~the first CT image is selected from one~~a group consisting of~~ a two-dimensional array, a three-dimensional array and a four-dimensional array.

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13. (Currently Amended) The method as claimed in claim 1, wherein ~~said~~the first

CT image is subjected to a second enhancement processing prior to ~~said~~the

combining.

14. (Currently Amended) The method as claimed in claim 13, wherein ~~said~~the

second enhancement processing is performed with respect to a second predetermined

intensity value range.

15. (Currently Amended) <u>A computer readable medium including at least one of</u>

<u>programs and program modules to, when executed on a computer, cause the</u>

<u>computer to implement the method of claim 1.</u>

~~A computer program product comprising software code portions for performing the~~

~~steps of claim 1, when said product is run on a computer.~~

16. (Currently Amended) A storage medium having stored thereon a computer<u>-</u>

<u>readable medium</u> ~~program product~~ according to claim 15.

17. (Cancelled).

18. (Currently Amended) A device for enhancing a first CT image composed of a

plurality of elements, each<u> element</u> having an intensity value ~~in Hounsfield units~~

indicative of a tissue type, the device comprising:

receiving means for receiving ~~said~~the first CT image,

processing means arranged for providing, by enhancement processing based on

~~said~~the first CT image, <u>at least one processed CT image</u>~~a plurality of copies of said first~~

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~~CT image~~, ~~said~~the processing means -being adapted for enhancement processing with respect to at least one predetermined intensity value ranges, and

means for combining at least one of the first CT image and the at least one processed CT image~~said plurality of copies of said first CT image with said first CT image~~, whereby an enhanced CT image is provided, ~~said~~the combining being based on a classification with respect to intensity values of regions within ~~said~~the first CT image and the at least one processed CT image~~said plurality of copies of said first CT image~~.

19. (Currently Amended)   A method to enhance~~for enhancing~~ a first digital image composed of a plurality of elements, each element having an intensity value, the method comprising:

receiving ~~a~~the first digital image,

providing, by enhancement processing based on ~~said~~the first digital image, at least one processed ~~a plurality of copies of said first~~ digital image, ~~said~~the enhancement processing being performed with respect to at least one predetermined intensity value ranges, and

combining at least one of the first digital image and the at least one processed ~~plurality of copies of said first said~~ digital image~~with said first digital image~~, whereby an enhanced digital image is provided, ~~said~~the combining being based on a classification with respect to intensity values of regions within ~~said~~the first image and ~~said~~said the at least one processed digital image. ~~plurality of copies of said first image.~~

****END OF LISTING OF CLAIMS****